

REMARKS

Claims 1-24 are in the case.

The specification was amended as follows. In the paragraph at page 4, lines 1-10, the word “chert” was replaced with the word “chart” to correct a typographical error. In the paragraph at page 4, lines 17-26, various reference numbers were changed to make the specification conform to the original drawings. In the paragraph at page 4, line 27 through page 5, line 9 various reference numbers were changed to make the specification conform to the original drawings. In addition, the words “a remote node” were changed to read “the remote node” to make reference to the previously established antecedent remote node. In the paragraph at page 8, lines 1-22, the reference number for the “user PC” was changed from “14a” to “12a” to make the specification conform to the original drawings. In the paragraph at page 8, line 23 through page 9, line 5, the word “packed” was changed to “packet” to correct a typographical error. In the paragraph at page 10, line 25 through page 11, line 2, the reference number for “forward link” was changed from “40” to “140” to correct a typographical error.

Applicant respectfully requests that the Examiner accept the above changes to the specification.

Claim 1 was amended to include a first plurality of channels dedicated for communication between a wireless unit and one or more remote wireless units and a second plurality of channels dedicated for communication between the remote wireless units and the wireless unit. Further, claim 1 was amended to recite that the first and second plurality of channels are scheduled according to a first and second predetermined cycle, respectively, and that the cycles are out of phase. Claims 3, 5-7, 13 and 22-24 were amended to include a first and a second plurality of channels and, first and second predetermined cycles similar to claim 1. Claim 4 was amended to make reference to a system rather than a method.

§ 102 Rejections

At paragraph 1 of the Office Action, claims 1-5, 7-9, 12, 13, 15-18 and 21 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent 6,671,260 to Engstrand (hereinafter "Engstrand").

The present invention relates to a technique for staggering channels in a wireless system. According to an aspect of the present invention, a first plurality of channels dedicated for wireless communication from a wireless communication unit to one or more remote wireless communication units is identified. In addition, a second plurality of channels dedicated for communication from the one or more wireless units to the wireless unit is identified. Each channel in the first and second plurality of channels is dedicated for communication between the wireless communication unit and a single remote wireless unit. The first plurality of channels is scheduled according to a first predetermined cycle and the second plurality of channels is scheduled according to a second predetermined cycle. The channels are scheduled such that the channels in the second predetermined cycle are out of phase with the channels in the first predetermined cycle.

Engstrand teaches a technique whereby a central node transmits data downstream to terminals in time slots. In addition, the terminals transmit data upstream to the central node in time slots allocated by transmission permits contained in the downstream data. See Abstract. Upstream transmission of data is timed such that the central node receives data from only one terminal at a time. This is achieved by dividing the upstream transmission path into time slots for the transmission of a single ATM cell and permitting only one terminal to transmit data in a single time slot. The central node issues permits indicating which terminal may transmit data in a particular timeslot. See Engstrand, column 3, lines 41-49.

According to Engstrand, transmission medium bandwidth, needed to transmit data between the terminals and central node, is allocated according to need. Terminals send requests to transmit data to the central node when they have data awaiting transmission. These requests

may also be sent by a terminal to the central node in response to a poll issued by the central node. A request from a terminal is sent in a mini-slot that occupies $1/8^{\text{th}}$ of an ATM cell timeslot. Up to eight terminals may send a request in a single time slot. See Engstrand, column 3, lines 49-62.

Representative claim 1 recites:

1. A method of staggering channels in a wireless communications unit comprising:
 - identifying a first plurality of channels dedicated for wireless communication from the wireless communications unit to one or more remote wireless communications units;
 - identifying a second plurality of channels dedicated for communication from the one or more remote wireless communications units to the wireless communications unit;
 - scheduling the first plurality of channels according to a first predetermined cycle; and
 - scheduling the second plurality of channels according to a second predetermined cycle, wherein each channel in the first and second plurality of channels is ***dedicated*** for communication between the wireless communications unit and a ***single*** remote wireless communications unit and, wherein the second predetermined cycle is ***out of phase*** with the first predetermined cycle.

Applicant respectively submits that Engstrand does not teach or suggest Applicant's claimed ***second plurality of channels***, each channel in the first and second plurality of channels ***dedicated*** for communication between the wireless communications unit and a single remote wireless communications unit, and a second predetermined cycle associated with the second plurality of channels that is ***out of phase*** with a first predetermined cycle associated with the first plurality of channels.

First, time slots (channels) in Engstrand are divided among many terminals. For example as noted above, a request from a terminal occupies $1/8^{\text{th}}$ of a time slot, i.e. a mini-slot, and up to 8 terminals may transmit requests within that time slot. Applicant's invention on the other hand dedicates a channel for each remote wireless unit. That is, in each channel, information is transferred between the wireless communications unit and only one remote wireless

communications unit. This is different than Engstrand which uses a time slot to carry information for more than one terminal.

Second, Engstrand fails to teach or suggest a second plurality of channels used to transmit data from a remote wireless communications unit to a wireless communications unit. Rather, Engstrand teaches a technique whereby remote terminals transmit to the central node using a permit system. Engstrand requires that a remote terminal first acquire a permit before transmitting to the central node. This seems to imply that there is only one plurality of time slots which are allocated and controlled by the central node.

Applicant's claimed invention, on the other hand, has no such requirement. Rather, Applicant claims two separate pluralities of channels wherein one plurality is used for communication between a wireless unit and a plurality of remote wireless units and the other plurality of channels is used for communication between the plurality of remote wireless units and wireless unit. Engstrand makes no such distinction. In fact, according to Engstrand a second plurality of channels is not necessary as the central node has control as to when the terminals may transmit (i.e., the central node has to issue a permit to a terminal unit before the terminal unit can transmit) even if those permits were issued on a regular or scheduled basis. Thus, Engstrand fails to teach a second plurality of channels that are used to communicate from the terminal units to the central node.

Third, since Engstrand fails to teach or suggest a second plurality of channels, Engstrand fails to teach Applicant's claimed first and second plurality of channels having first and second predetermined cycles, respectively. In addition, Engstrand fails to teach that the second predetermined cycle is out of phase with the first predetermined cycle, as claimed by Applicant.

Because of the absence of Applicant's claimed each channel in a first and second plurality of channels *dedicated* for communication between the wireless communications unit and a single remote wireless communications unit, a *second plurality of channels* for communication between a plurality of remote wireless units and a wireless unit and a second

predetermined cycle associated with the second plurality of channels that is *out of phase* with a first predetermined cycle associated with the first plurality of channels in Engstrand, Applicant respectfully submits that Engstrand does not render Applicant's claims 1-5, 7-9, 12, 13, 15-18, and 21 anticipated under 35 U.S.C. § 102. Therefore, Applicant respectfully requests that the rejection to claims 1-5, 7-9, 12, 13, 15-18 and 21 be withdrawn.

§ 103 Rejections

At paragraph 2 of the Office Action, claims 6, 10, 11, 14, 19 and 20 were rejected under 35 U.S.C. § 103 as being unpatentable over Engstrand. For reasons set forth above Applicant believes that Engstrand does not teach or suggest Applicant's claimed first channel dedicated for wireless communication from a base station to subscriber access unit and a second channel dedicated for wireless communication from a subscriber access unit to a base station wherein the first channel is scheduled for communication according to a first cycle and the second channel is scheduled for communication according to a second cycle and the first cycle is out of phase with the second cycle. Thus, Applicant respectfully submits that Enstrand does not render claims 6, 10, 11, 14 19, and 21 obvious under 35 U.S.C. § 103. Therefore, Applicant respectfully requests that the rejection to claims 6, 10, 11, 14, 19 and 20 be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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